translator and the Monticello station, and "taking meter readings" for both of those stations. What Mr. Luna claims is impossible. As I stated earlier, the remote control units in the Dumont studio have never had the ability to raise and lower power; they only can turn the transmitters on and off. Exhibits in my direct case are letters from their manufacturers which substantiates that fact. In addition, there have never been any meters to provide remote power readings for the Fort Lee translator.

4. Mr. Luna also is very confused about the strobe light which had been installed in the Dumont studio. That strobe light never provided an indication about the status of the Monticello station transmitter. The strobe light Mr. Luna refers to was connected to the secondary data channel on the landline between the Dumont studio and the Monticello station. That data channel was the path to carry remote control signals and data between the Monticello station and the Dumont studio. In the event of a failure of some kind on that data channel, the strobe would light and flash "off air." I cannibalized that strobe light from other equipment but it gave no indication of the status of the Monticello station transmitter. It would light up if there was trouble on the data channel, but such trouble would have no relationship to the Monticello station transmitter itself. Eventually, I disconnected that strobe light because it would light far too often and was very annoying. An Exhibit to my direct case is a letter from the manufacturer of the digital telemetry unit which substantiates what I have just explained.

5. Mr. Luna and Mr. Gaghan have stated that the microwave was used regularly to provide programming directly from the Dumont studio to the Fort Lee translator. That is false. Mr. Luna and Mr. Gaghan also stated that if the microwave failed, then provision of programming would switch over automatically to a telephone line. That too is false. I have

never provided programming to the Fort Lee translator from the Dumont studio by telephone line. There has never been any equipment to automatically switch programming over to a telephone line. It would have been possible to directly connect a telephone line to the Fort Lee translator, but that was never done. The only telephone line which was ever there was an 8 kHz line, as I stated earlier. If programming had been provided over that line with its restricted bandwidth, the sound quality would have been terrible. It was never used for that purpose.

6. Mr. Luna and Mr. Gaghan both state that they knew of telephone calls from listeners who said that they could not hear the Monticello station on the air while the Fort Lee translator was broadcasting Jukebox Radio programming. There are easily understood explanations for those telephone calls that do not mean that Jukebox Radio operated illegally. The Monticello station has operated at reduced power on more than one occasion. I have described the period of time in April of 1995. At other times, ice has built up on the antenna causing an overload in the Energy Onix transmitter. Under those conditions, the transmitter would reduce power but not shut down. As noted earlier, the Pomona translator is able to receive a satisfactory signal from the Monticello station at reduced power and rebroadcast when many other receivers would not be able to receive a signal. At other times, weather conditions, such as temperature inversion, can cause temporary loss of reception of the Monticello station by some receivers. Indeed, to this day, we occasionally receive calls from listeners in Sullivan County and in Bergen County who cannot hear Jukebox Radio when the stations are operating normally.

7. Mr. Gaghan was never a regular full time employee of Jukebox Radio. He worked part time and was an outside consultant with extremely limited understanding of the technical operations of Jukebox Radio. Mr. Gaghan has expressed his personal dislike for me on many

occasions, and has threatened me. His performance while working at Jukebox Radio was unsatisfactory and he was disruptive.

Turning to May 15, 1995, Mr. Loginow has testified that he inspected the Fort Lee translator again. Mr. Loginow has stated that he went to the top floor of the Mediterranean Towers, where the translator is housed, and from there he used a small frequency generator to transmit dead carrier on the frequencies used by the Pomona translator, the Monticello station, and the WMG-499 microwave. Mr. Loginow listened to the Fort Lee translator frequency of 103.1 MHz to determine if the dead carrier he generated was picked up and retransmitted by the Fort Lee translator. He has stated that the Fort Lee translator retransmitted his dead carrier only when he transmitted it on the microwave frequency, 951 MHz, suggesting that the Fort Lee translator was being programmed directly from the Dumont studio by the microwave. That is incorrect.

On May 15, 1995, the Fort Lee translator was receiving Jukebox Radio programming off the air, or "directly through space," from the Pomona translator by use of one of its receiving antennas and one of its receivers tuned to 94.3 MHz. What Mr. Loginow does not understand is that at that time, I was using a receive antenna mounted in the basement of the Mediterranean Towers to receive the Pomona translator on 94.3 MHz. At other times, including today, I have used a receive antenna for the Pomona translator on the roof, but during the Spring of 1995, vandals had stolen or damaged my roof-mounted equipment several times at the Mediterranean Towers so I found a secure location in the basement which received a strong signal from the Pomona translator. I placed an antenna there to receive the Pomona translator and connected it to the receiver by internal telephone wiring. Obviously, Mr. Loginow's small, portable, frequency

generator's output was much too weak to reach that Pomona receive antenna through more than 23 stories of concrete, steal, pipes, ducts, etc. of the Mediterranean Towers. Mr. Loginow must have assumed that he was near the active receive antenna for the Pomona translator, but because he was very far from it, and because his frequency generator was greatly shielded from that antenna, it did not pick up the dead carrier he generated with his portable unit.

Apparently, Mr. Loginow was near the Fort Lee translator receive antenna for microwave station WMG-499, which was mounted on the roof. I believe that when Mr. Loginow transmitted his dead carrier on 951 MHz, the transmit frequency for WMG-499, he interrupted all signals on the path, including the telemetry. As I stated earlier, my failsafe was if telemetry was interrupted, then the Fort Lee translator was programmed to home immediately to the microwave audio channel to receive emergency messages. Mr. Loginow's dead carrier must have disrupted the telemetry, caused the receiver to home onto the microwave audio channel, and then it transmitted the dead carrier. In other words, Mr. Loginow caused the results he reported by overriding or jamming the telemetry channel on the microwave.

As part of my direct case are letters and a manual from the manufacturers of the equipment I used in 1995 which demonstrate that the homing arrangement which was in effect at that time was consistent with routine operation of that equipment.

I have a clear memory of the May 15, 1995 jamming incident because it was unusual. I was in the Dumont studio that day with the Jukebox Radio programming coming in off the air on 103.1 MHz, as usual. Sometime between 2:00 and 2:30 pm, I distinctly heard the programming audio erratically break up for about three or four seconds, and then fall to dead carrier. Then someone upstairs called down: "We're off the air." My first thought was that the receiver at the

Fort Lee translator tuned to 94.3 MHz had failed. I hurried upstairs to check the remote control unit, intending to switch to the receiver tuned to the Monticello station. By the time I got there, the Jukebox Radio programming was back on the air. I noticed immediately that light No. 6 on the remote control unit was lit, indicating that the microwave receiver at the Fort Lee translator was in operation. I switched the Fort Lee translator reception back to the Pomona receiver, which worked properly, and light No. 5 came back on (indicating reception of the Pomona translator's signal) instead of light No. 6. At this point, I realized that someone had jammed the microwave, stripping the microwave receiver of incoming telemetry for remote control and thus causing the microwave unit to directly feed audio to the Fort Lee translator.

The incident on May 15, 1995 was strange, which is why I remember it distinctly, even though is only lasted for a few moments. I was angry about it because I assumed that someone from WVNJ had been interfering with my operations and had ended up jamming the microwave path. In fact, I called Herman Hurst to describe it to him. I remember describing the incident to him and he told me that it was unlikely that people from WVNJ had done it, and that it probably had been the FCC conducting tests. I asked Mr. Hurst if the FCC had any right to interfere with the signal like that. He told me to calm down because the FCC could do just about anything it wanted.

In June, 1995, I received a letter from the FCC directing me to turn off the WMG-499 microwave. Although I thought that the FCC was wrong to order me to stop using it, I wanted to avoid trouble, and I disabled the microwave permanently in early July, 1995. It has not been in operation at any time since then. Since that time, I have used the 9600 baud data circuit mentioned earlier for remote control of the Fort Lee translator.

Also in June, 1995, the FCC sent me a letter of inquiry about the Jukebox Radio operations and the Fort Lee and Pomona translators. Herman Hurst and Dan Miller, formerly with Koteen & Naftalin, came to Bergen County in July, 1995, to examine all of the facilities, including the two translators, and to help me prepare my response to that letter. I submitted my response dated July 27, 1995, and the assertions therein were true, correct and, I believe, complete.

On August 2, 1995, I received a telephone call at the Dumont studio from Mr. Loginow. In that call he stated that he wanted to inspect the Fort Lee translator. I drove to Fort Lee and met Mr. Loginow at the Mediterranean Towers about twenty minutes after he called me. I gave him my complete cooperation so that he could examine everything at the Fort Lee translator because I wanted no trouble with the FCC.

I showed Mr. Loginow all of the equipment and facilities of the Fort Lee translator, including the antennas mounted on the roof of the Mediterranean Towers and the equipment on the 24th floor of the building. I explained to Mr. Loginow that the roof mounted antennas had been vandalized repeatedly over time and that I had used other receive antennas located elsewhere in the building. I offered to show him those antennas but he said that he was only interested in seeing the antennas in use that day. I answered any questions he asked. While Mr. Loginow listened to 103.1 MHz on his walkman, he watched me turn off the receiver tuned to the Pomona translator on 94.3 MHz, hearing the Jukebox Radio programming immediately cease on 103.1 MHz. Also, I tuned a radio into 99.7 MHz while at the Mediterranean Towers and had Mr. Loginow listen to the Monticello station off the air in Fort Lee. He seemed fully satisfied. He examined all of the Fort Lee translator facilities.

At my urging, Mr. Loginow got in my car and I drove him to the Pomona translator to inspect its facilities too, leaving his Ford Explorer back in Fort Lee. Again, I cooperated with Mr. Loginow fully. He examined all of the facilities of the Pomona translator. He listened on an FM receiver tuned to 103.1 MHz while he watched me turn off the transmitter on 94.3 MHz and immediately heard the Jukebox Radio programming drop off the air on 103.1 MHz. After Mr. Loginow was satisfied, I drove him back to his vehicle in Fort Lee.

At several times during his inspections, I observed Mr. Loginow take a small spiral notebook out of his breast pocket and write in it. At the end of the inspections, I asked him how the inspection was going. He told me that I was "in good shape" but it was "your friend Wes Weis" that was in trouble.

The truth about the Fort Lee and Pomona translators is that they receive Jukebox Radio programming off the air, or "directly through space." I have always been able to pick up a good signal from the Monticello station on 99.7 MHz from the Fort Lee translator, and an even better signal from the Pomona translator on 94.3 MHz. For the entire time I have been rebroadcasting the Monticello station I have done so by receiving either the Monticello station or the Pomona translator signal off the air, or "directly through space," at the Fort Lee translator, with the exceptions of less than five emergency announcements. I have caused the Fort Lee translator to receive its programming off the air, or "directly through space," because I understand that the FCC requires reception of commercial stations in this manner (with the exception of emergency messages) and because the off air reception at the Fort Lee translator works well. I have never used a landline to program the Fort Lee translator. I have always tried to observe all of the FCC's requirements. In addition, I have not had any reason to break the FCC's translator rules

because the Fort Lee translator is, and has been, fully capable of receiving the off air signals of the Monticello station and the Pomona translator. The Statement of Herman Hurst and the video tape related to it, along with the audio tape I offer, emphasize that this is so. To the best of my knowledge, since the Monticello station went on the air in 1994, non-emergency Jukebox Radio programming has never been supplied from the Dumont studio to the Fort Lee translator by the microwave station (with the momentary exception on May 15, 1995, caused by Mr. Loginow) or by any other facility; it has only been received off the air or "directly through space."

A few other incidents also demonstrate that the Fort Lee translator receives programming off the air, or "directly through space." Although I do not exactly remember the dates, once lightning struck the Pomona translator and knocked it out. We immediately discovered that there was a problem at the Pomona translator because Jukebox Radio programming dropped off the air on 103.1 MHz, which we listen to in the Dumont studio, and instead the programming of a Long Island, New York station was being rebroadcast by the Fort Lee translator. That Long Island station transmitted on 94.3 MHz and the Fort Lee translator started picking it up off the air as soon as the Pomona translator stopped transmitting. I promptly used the remote control equipment to switch the Fort Lee receiver over to receipt of the Monticello station on 99.7 MHz to restore the Jukebox Radio programming. On another occasion, something went wrong at the Pomona translator and it started to rebroadcast a Maryland Christian programming station transmitting on 99.7 MHz, rather than the Monticello station. To the best of my recollection, we switched the Fort Lee translator over to receipt of the Monticello station off the air rather than receipt of the Pomona station until the problem could be addressed.

I will conclude my Statement with a few additional points.

To the best of my recollection, during part of the Spring of 1995, and during the time that Mr. Loginow has said that he inspected the facilities of Jukebox Radio, the Monticello station was operating at reduced power. The station's antenna had been hit by lightning and damaged, causing the transmitter to roll back power. I do not believe that the Monticello station went off the air entirely, but it did operate for several weeks at reduced power while Mr. Weis arranged to buy and install a new antenna. Audio quality differences which Mr. Loginow thinks that he heard between the Spring and Summer of 1995 may have been caused by this reduction in the transmitting power of the Monticello station.

In a related matter, there have been a few times when we have heard that listeners in Sullivan County have been unable to hear the Monticello station on the air on 99.7 MHz even though the Fort Lee translator continued to broadcast Jukebox Radio programming in Bergen County. I have explained the cause of such incidents (reduced operating power by the Monticello station and weather conditions). The fact of the matter is that, to the best of my knowledge, the Monticello station has never gone entirely off the air, probably because of the auxiliary generator that Mr. Weis had installed for it. However, at times when the Monticello station operated at reduced power, local listeners in Sullivan County could have been unable to hear Jukebox Radio on 99.7 MHz because of distance or intervening terrain. Sullivan County is quite hilly. However, the Pomona translator's receive antenna is on top of a hill and is in line of sight with the Monticello station transmit antenna. Therefore, the Pomona translator is able to receive a good quality signal from the Monticello station when it is broadcasting at reduced power levels. At times when the Monticello station has operated at reduced power, the Pomona translator has been able to receive it when more distant or obscured receivers in Sullivan County

could not. In his Statement, Mr. Hurst demonstrates that the Pomona translator is able to receive and rebroadcast the signal of the Monticello station even at power levels less than 200 watts. Therefore, reduced power at the Monticello station, or other natural conditions, could cause local Sullivan County listeners to be unable to hear Jukebox Radio on 99.7 MHz temporarily while at the same time the Pomona translator could still receive that signal and rebroadcast it.

It is important to me that Jukebox Radio make a substantial contribution to the public interest. We air news and weather several times a day, and make sure that such programming is helpful to the residents of Sullivan County and Bergen County. We have made sure that we get local weather and temperature reports from each county several times a day and we put them on the air promptly. We regularly air programming which addresses issues of public importance to both Sullivan County and Bergen County residents on a regular basis, and we regularly carry timely information about weather problems, road conditions and school closures for both counties. Much of our issue responsive programming for Sullivan County is suggested by Carol Montana, Mr. Weis' employee, at the Monticello station studio. Our programming routinely includes a half hour public affairs program each week which is produced in and for Sullivan County in the studios of WVOS and aired by Jukebox Radio, along with other materials relevant to local issues in Sullivan County, in Bergen County, or both. We have produced many live, remote broadcasts, including a number of them from locations in Sullivan County. While a majority of our advertising comes from businesses situated in Bergen County, Jukebox Radio definitely carries advertisements for businesses seeking customers in Sullivan County. The bulk of our programming is devoted to music which is of significant appeal to residents of both counties. Several exhibits to my direct case are letters which establish that Jukebox Radio serves the public interest.

Finally, I state that this hearing is unnecessary and unfair. I believe that Universal Broadcasting of New York has managed to convince the FCC to prosecute me so that Universal can avoid competition in the radio business, and not because there is any substantial evidence of FCC rules violations on my part. I know that William Gaghan dislikes me and wants me harmed. He has expressed hatred of me personally many times, including threatening me publicly in the Beehive restaurant in the summer of 1996. I believe that the owners, employees and representatives of Universal have talked the FCC into proceeding against me, even though evidence against me was flimsy and the FCC's own field engineer found my translators to be in compliance with the FCC's rules when he inspected them in April and August, 1995, and in June, 1997. The FCC designated a hearing against me, undoubtedly to accommodate Universal's interests in seeing Jukebox Radio harmed or destroyed.

This proceeding has been very harmful to me. It has been very burdensome, expensive and distracting for me and for my business. It should not be taking place.

My counsel, Charles R. Naftalin, assisted in the preparation of this Statement.

I state under penalty of perjury that the foregoing is true and correct.

Gerard A. Turro

Then personally appeared before me,
Gerard A. Turro, who executed the
foregoing Statement this 5th day of November, 1997.

My commission expires: 9/1/2002

JOSEPH A. LAZIZZA
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires Sept. 1, 2002

T 2

TURRO EXHIBIT NO. 2

STATEMENT OF HERMAN E. HURST, JR.
IN THE MATTER OF
MM DOCKET NO. 97-122

I am a Radio Engineer, an employee in the firm of Carl T. Jones Corporation with offices located in Springfield, Virginia.

A resume summarizing my education and experience is appended as Attachment A.

On October 16 and 17, 1997, I inspected the receive and the retransmit facilities of W232AL Pomona, New York and W272AQ Fort Lee, New Jersey, both licensed to Gerard A. Turro, to verify that they were functioning as translators in manner prescribed by Section 74.1231 of the Commission's Rules and Regulations. I was accompanied on this inspection, measurement and evaluation trip by John Hidle, another employee of Carl T. Jones Corporation.

As described by me in a statement dated July 25, 1995 attached to Turro's response to an FCC letter of inquiry which is also included as Attachment B to this statement, the Pomona translator facility rebroadcasts WJUX(FM) Monticello, New York. The Fort Lee translator receives the Pomona translator and rebroadcasts the WJUX program material. Attachment C is a map exhibit depicting the relative location and frequencies in use for these facilities. At the Fort Lee receive/transmit facility located atop the Mediterranean Towers apartment building, the capability to receive WJUX Monticello

directly off-air also exists. While using various propagation models for predicting WJUX(FM) signal strength available at Fort Lee for reception and rebroadcast would indicate such reception is marginal, in fact the level of signal varies widely over the roof area of the building and a "hot spot" exists where good quality reception of WJUX is indeed possible. The ability to receive a rebroadcast quality signal atop the roof at Fort Lee from both WJUX(FM) and the Pomona translator has been verified by me. In fact Turro currently has a receive facility on the roof for continuous off-air reception directly from Monticello along with the separate receive system for reception of W232AL. Selection of the two available program sources (i.e., WJUX(FM) directly or W232AL) can be accomplished by wireline remote control from the Dumont Studios of Juxbox Radio.

While some seasonal variation in received signal quality is noted, I have observed the audio quality during mid and late summer periods while foliage causes the greatest path attenuation, and I found the resulting reception to be good to excellent audio quality. Signal evaluation based on receiver input levels as detailed in John Hidle's statement included in Mr. Turro's direct case indicates good correlation with predictions presented in my July 25, 1995 statement, as well as those levels predicted by Jules Cohen contained in his Statement dated July 9, 1997. As can be seen in the video tape accompanying my statement, the audio quality is good particularly considering the use of a headset for the audio output and the windy rooftop location.

Several aspects of the overall equipment configuration for the rebroadcast of Juxbox Radio Network programming broadcast by WJUX Monticello to the translators at Pomona and Fort Lee are unique for translator operation. First, the receive signal, while less than normal broadcast quality, is enhanced through noise reduction and audio processing equipment at both translator locations before it is rebroadcast. Consequently the rebroadcast signal audio quality is actually enhanced beyond that received. This type of translator operation is not the norm. In most instances the RF signal is received and heterodyned to the transmit frequency and then amplified with no demodulation to audio baseband having occurred and no effort at audio enhancement undertaken. Another important aspect is that the facilities operate in monaural rather than stereo modes which was discussed at length in my July 25, 1995 statement, which is Attachment B hereto. Finally, the performance of the receiver used throughout the system, a Sony Model XR-2500, has inherently a 33 dB discrimination between the desired and an undesired signal on the first adjacent channel. This value was determined in testing in our laboratory, reported in the accompanying statement of John Hidle. Second adjacent channel discrimination is 59 dB. Given that the initial installation of the Monticello to Fort Lee installation included a first adjacent channel notch filter providing approximately 30 dB further discrimination, coupled with a receive antenna discrimination on the order of 20 dB, it is understandable that reception of WJUX at Fort Lee has been possible since

WJUX(FM) began operation and continues to be possible with a rebroadcast audio signal of good to excellent quality.

While some engineers have contended that the audio quality broadcast by both translators is "too good to be true," I have undertaken a thorough investigation and determined that no other audio input is present. Indeed, the programming broadcast by both the Pomona and Fort Lee translators is a directly through space reception and rebroadcast in accordance with the Rules and Regulations of the FCC. The term "received directly through space" as used in Section 74.1231 is the term meaning "off-air pickup". This differentiates from intermediate means of feeding the program material, such as satellite, microwave or wireline.

To my knowledge, remote control of the transmitter at WJUX(FM) Monticello has been established at the Juxbox studios in Dumont via a secondary data circuit contained within the program transmission. While both the primary control point at the WJUX studio in Ferndale and the alternate control point at Dumont have certain control and telemetry capabilities, the Energy-Onyx transmitter in use at WJUX does not have remote power adjustment capability. Further, the translator transmitters in use at both Fort Lee and Pomona cannot have power adjusted via remote control. While the power output of the WJUX transmitter can be monitored by remote control, one is not able to determined remotely the output power of either translator. Interestingly, on October 17, 1997, John

Hidle and I with the assistance of Alan Kirschner, Chief Engineer of WJUX(FM), undertook tests to determine the minimum transmitter power output of the WJUX transmitter required to maintain satisfactory reception at Pomona. Mr. Hidle and I were located in the Fort Lee area monitoring the off-air reception of the Fort Lee translator, while directing Mr. Kirschner via telephone to lower the output power of the WJUX transmitter until programming was lost. This effort resulted in a determination that the transmitter output must be reduced approximately 17 dB before the reception at Pomona failed thereby removing program from the Fort Lee transmitter. In other words, WJUX was able to be received by Pomona with the transmitter operating at levels below 100 watts before the signal could no longer be received.

The ability to switch program inputs to the Fort Lee translator is currently available at the Dumont studio site via a 9600 baud telephone line. This line is not of sufficient bandwidth to provide acceptable quality audio, but can be used for the switching capability for which it is intended. In fact, this control capability was originally provided in the control subchannel present on the Intercity relay microwave facility initially licensed to Gerard Turro (WMG-499). That microwave facility was utilized solely for inserting emergency messages and control. The Commission canceled the license thereby requiring Turro to establish the current wireline control circuit. Interestingly, while the microwave was utilized for this control function Turro telephoned me on/or about May 16, 1995 and in the course of that conversation explained that someone had "jammed" the microwave the prior

afternoon in a manner that caused the control circuit to fault to the fail-safe program feed to the translator from the microwaves primary audio channel. While Mr. Turro expressed dismay at what he believed to be an attempt by representatives of Universal Broadcasting to sabotage the programming of the Fort Lee translator, I expressed the opinion that it was probably FCC personnel who had undertaken this effort, failing to understand how the equipment was configured. Upon my most recent visit to the Mediterranean Tower site, I concluded that any effort to jam the prior microwave link, which no longer exists, would have actually occurred by overloading the receiver rather than inserting signal into the receive antenna unless the effort was undertaken directly on the roof in front of the microwave receive antenna.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed this 7th day of November 1997.

Herman E. Hurst, Jr.

ATTACHMENT A

CARL T. JONES CORPORATION

HERMAN E. HURST, JR.

EDUCATION

Georgia Institute of Technology, Electrical Engineering; 1961

SUMMARY

Mr. Hurst has over thirty-five years of experience in the field of broadcast and communications systems engineering. Mr. Hurst possesses a broad background in telecommunications engineering and system planning for both industry and the various levels of government. His experience in the commercial broadcast field has included preparation of applications and pleadings for filing with the Federal Communications Commission, antenna system design, and facility Proof-of-Performance and certification to the Commission.

PROFESSIONAL EXPERIENCE

Carl T. Jones Corporation (1976 to Present)

Principal Engineer. Mr. Hurst is responsible for the administration and management of efforts related to providing engineering services to Federal, State, and Local Government and industry for radio communications systems design. Mr. Hurst currently functions as Manager, Broadcast Consulting Services. During the past 21 years with Carl T. Jones Corporation, Mr. Hurst has been assigned responsibilities for contract administration, program management and project engineering. Over this span of service, Mr. Hurst has been directly involved in engineering programs literally covering the radio spectrum. As Project Engineer for the development of low-frequency transmission systems to supervision of design efforts of microwave information and control networks, he has developed expertise in antenna/transmission systems design. Command and Control centers, and Operational Status Display systems. Research and study efforts have included tropospheric and ionospheric propagation studies, frequency allocation programs, and conducted-carrier communications systems RFI research.

Omnicom, Inc. (1972 to 1976)

Mr. Hurst was Vice President of Omnicom, Inc., responsible for supervision and project leadership in radio communications systems design and technical support for Law Enforcement/Public Safety and Transit Communications development. These technical services included analysis of client's operational responsibilities and procedures, development of communications system requirements insuring acquisition of a system

tailored to the client's needs, cost-benefits analyses of viable alternatives to provide for optimum system effectiveness, and engineering design of the recommended system configuration. Follow-on services include preparation of specifications, technical assistance in bid-proposal evaluation, support to the contracting agent as his Technical Representative for contract monitoring and evaluation of system Quality Assurance and Acceptance Tests.

Gautney and Jones Communications, Inc. (1961 to 1972)

Mr. Hurst was a Staff engineer providing technical consulting services to the commercial broadcasting industry. He specialized in the design of multi-element directional antenna systems, provided field engineering services for the adjustment and performance certification of radio transmission systems assuring operation in accordance with Federal Communications Commission authorizations. Additionally, Mr. Hurst provided services in the area of complete facility design and preparation of engineering submissions to the FCC.

Federal Communications Commission (1958 to 1959)

Co-operative Student. Mr. Hurst was involved in the evaluation of technical submissions to the Commission's Broadcast Bureau to determine conformance with engineering standards, frequency allocation plans, and the agency's Rules and Regulations.

CARL T. JONES CORPORATION

STATEMENT OF HERMAN E. HURST, JR.
REGARDING THE OPERATION OF
W276AQ, FORT LEE, NEW JERSEY AND
W232AL, POMONA, NEW YORK

Prepared for: Gerard A. Turro

I am a Radio Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission.

This office has been authorized by Gerard A. Turro ("Turro") to prepare this statement in technical support to the response to FCC letter dated June 21, 1995 concerning the operation of W276AQ, Fort Lee, New Jersey, and W232AL, Pomona, New York. The purpose of this statement is to provide the FCC with the requested clarification relating to the FM translator stations during the period from October 18, 1994 until the present.

During the time period from October 18 through October 25, 1994, W276AQ (hereinafter, "Fort Lee translator") rebroadcast noncommercial educational FM station WNJW(FM) [formerly WJUX(FM)], Franklin Lakes, New Jersey. W232AL, Pomona, New York, (hereinafter, "Pomona translator") rebroadcast the signal received from the Fort Lee translator.

On October 25, 1994, noncommercial educational FM station WNJW(FM) temporarily went silent. The Fort Lee translator changed its primary station to full service

FM station WJUX(FM) [formerly WXTM(FM)], Monticello, New York. The directional receive antenna located at Fort Lee received the WJUX(FM) broadcast signal directly through space. To avoid potential adjacent channel interference to the reception of WJUX(FM), a specially designed 3-cavity filter manufactured by EMR Corporation in Phoenix, Arizona, was added to the receiver subsystem. This filter provides a 40 dB discrimination between the WJUX(FM) carrier and carriers removed ± 10 kHz. The off-air signal received from WJUX(FM) was then suitably converted, amplified and rebroadcasted over the Fort Lee translator.

During the time that the Fort Lee translator rebroadcast WJUX(FM), the Pomona translator changed its primary station to full service FM station WRGX(FM), Briarcliff Manor, New York. The directional receive antenna located at Pomona received the WRGX(FM) broadcast signal directly through space, suitably converted and amplified the signal and rebroadcasted the WRGX(FM) signal over the Pomona translator.

On January 10, 1995, after the consummation of the sale of the W232AL translator, the Pomona translator station began receiving programming material over-the-air from full service FM station WJUX(FM), Monticello, New York.[1] A directional, high gain receive antenna and the specially designed EMR Corporation filter (moved from the Fort Lee location) are used to receive the WJUX(FM) over-the-air signal. The aural

[1] The prior licensee of W232AL, Pomona, New York, was Wesley R. Weis and Gerard A. Turro. On December 23, 1994, the FCC granted Assignment of License Application (FCC File No. BALFT-941019TC) authorizing the assignment of the W232AL license to Gerard A. Turro.

programming material is then converted, suitably amplified, and rebroadcast over the Pomona translator in accordance with Section 74.1231 of the FCC Rules. Another directional receive antenna located at the Fort Lee translator receives the over-the-air signal from the Pomona translator. The received signal is then converted and suitably amplified for rebroadcasting on the Fort Lee translator. It is my understanding that no alternate means of program delivery is used.[2] The Fort Lee translator has the ability to receive *directly through space* either the WJUX(FM) broadcast signal or the Pomona translator's broadcast signal depending on signal quality.

As stated in Turro's attached letter, it has been alleged that the signal of WJUX(FM) is inadequate to supply the quality signal rebroadcast over the Fort Lee translator.[3] This is simply untrue. On July 6, 1995, I listened to the over-the-air reception of the WJUX(FM) signal at both translator locations. I can attest to the good quality of the WJUX(FM) signal at both the Pomona translator and at the Fort Lee translator. The accompanying cassette tape was made by Mr. Turro at the Fort Lee site, and clearly demonstrates the good quality of both the WJUX(FM) signal (99.7 MHz) and the signal received from the Pomona translator (94.3 MHz). In addition to the cassette tape which

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[2] Aural Inter-City Relay station WMG-499, an auxiliary broadcast station associated with W276AQ, was being used to deliver once-an-hour, 30-second messages and emergency messages to the Fort Lee Translator. However, as explained in the attached letter, WMG-499 is presently silent.

[3] See February 15, 1995, letter to FCC from Messrs Roy R. Russo and Richard A. Helmick on behalf of Universal Broadcasting of New York, Inc., licensee of standard broadcast station WVNJ, Oakland, New Jersey.

proves that the high fidelity receive signal is present in reality, as demonstrated below, theory also shows that the system will perform reliably.

The reliable, high fidelity, over-the-air signal that WJUX(FM) provides to both the Pomona and Fort Lee translator locations is not surprising when the unique propagation characteristics of the radio path and the transmit and receive equipment are considered. The Pomona translator receives a better quality signal from WJUX(FM) than does the Fort Lee translator. As a result, the Fort Lee translator currently rebroadcasts the over-the-air signal from Pomona.

The distance and bearing from the WJUX(FM) transmitter site to the Pomona receive location is 82.7 km (51.4 miles) at 137.3 degrees true. Radio station WJUX(FM), a monophonic broadcast facility, currently operates with an Effective Radiated Power (ERP) of 6.0 kW at an antenna Height Above Average Terrain (HAAT) of 100 meters. The WJUX(FM) antenna HAAT along the 137.3 degree radial is 133 meters. Using the FCC's F(50,50) propagation curves, the predicted received field strength at the Pomona translator is 36.4 dBu (66 μV/m). In reality, and according to alternate prediction methods, the received signal level is even higher.[4]

[4] According to the Longley-Rice prediction model, which considers the propagation characteristics unique to a given radio path, the received signal at Pomona is expected to be between 110 μV/m and 200 μV/m. The Longley-Rice model predicts a received signal at Fort Lee between 8 μV/m and 14 μV/m.

It is well documented that a monophonic broadcast system will serve a much wider area than a conventional stereo broadcast facility because receiver characteristics allow for much better reception of low level mono signals.[5] Typically fixed mono FM receivers have a sensitivity of 3 to 5 μV/m.[6] According to the NAB Engineering Handbook, "FM stereo signal-to-noise ratio is 22 dB worse than for mono at levels at or below 300 μV/m".[7] Therefore, at the Pomona site, the fidelity of the predicted WJUX(FM) monophonic signal strength of 66 μV/m is comparable to a stereo receive signal of 0.83 mV/m which is 4.3 dB greater than what the Commission considers "primary service" for a Class B FM facility. When one also considers the high gain, optimized, fixed, directional receive antenna, the receive antenna's height, and special filtering in the Pomona translator's receiver subsystem, the received audio fidelity will be much greater than the FCC's F(50,50) curves predict.

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[5] See Amendment of Part 3 of the Commission's Rules and Regulations to Permit FM Broadcast Stations to Transmit Stereophonic Programs on a Multiplex Basis, Docket No. 13506; FCC 61-254 Released April 20, 1961. The record contains substantial evidence pertaining to the "lost coverage area" which would be created as a direct result of the conversion from monophonic to stereophonic broadcasting.

[6] RF Signal for 30 dB audio signal-to-noise ratio. See *NAB Engineering Handbook Eighth Edition*, Section 7.2 Radio Receivers, Table 2, page 1144.

[7] See *NAB Engineering Handbook Eighth Edition*, Section 7.2 Radio Receivers, page 1145.